WHAT IS CLAIMED IS:

1. A nucleic acid sequence including at least one cloning site and selected from the group consisting of:

(a) a nucleic acid sequence according to Seq ID No. 1 or its complementary strand,

(b) a nucleic acid sequence that hybridizes under stringent conditions to the nucleic acid sequence as defined in (a), and

(c) a fragment comprising at least about 200 consecutive base pairs of the nucleic acid sequence as defined in (a) or in (b).

2. A vector for insertion of a heterologous sequence into the ATI region of an orthopoxviral genome, said vector including a nucleic acid sequence selected from the group consisting of:

(a) a nucleic acid sequence according to Seq ID No. 1 or its complementary strand,

(b) a nucleic acid sequence that hybridizes under stringent conditions to the nucleic acid sequence as defined in (a), and

(c) a fragment comprising at least about 200 consecutive base pairs of the nucleic acid sequence as defined in (a) or in (b).

3. The vector according to claim 2 wherein the nucleic acid sequence includes at least one cloning site.

4. The vector defined in claim 3 wherein additionally at least one transcriptional control element is included in the cloning site of said nucleic acid sequence.

5. The vector defined in claim 3 wherein the cloning site is the restriction site EcoRI.

6. The vector defined in claim 4 wherein the at least one transcriptional control element is obtained from a poxvirus genome or is a consensus sequence from a poxvirus genome.

7. The vector defined in claim 2 further comprising at least one heterologous sequence, said heterologous sequence functionally associated with a transcriptional control element thereof.

8. The vector defined in claim 7 wherein the heterologous sequence is selected from the group consisting of marker genes, therapeutic genes, host range genes and genes encoding immunogenic epitopes.

9. The vector defined in claim 7 comprising a recombinogenic sequence, which flanks one or more heterologous sequences encoding marker genes, host range genes, and or a transcriptional element thereof.

10. A recombinant orthopoxvirus having an ATI gene, comprising in its ATI gene region the nucleic acid sequence defined in claim 1 and an inserted heterologous sequence .

11. The recombinant orthopoxvirus defined in claim 10 wherein the orthopoxvirus is selected from the group consisting of a modified vaccinia Ankara virus, vaccinia virus Western Reserve, and vaccinia virus Copenhagen.

12. The recombinant orthopoxvirus defined in claim 11 wherein the orthopoxvirus is the modified vaccinia Ankara virus.

13. A method of introducing a heterologous sequence into the ATI gene region of an orthopoxvirus having an ATI gene to obtain a recombinant orthopoxvirus which comprises the steps of:

(a) transducing a host cell with a vector as defined in claim 2 comprising at least one heterologous sequence;

(b) infecting said host cell with an orthopoxvirus having an ATI gene;

(c) inserting the heterologous sequence into an insertion site of the ATI gene of the orthopoxvirus by homologous recombination between the nucleic acid sequence and a corresponding genomic sequence of the orthopoxvirus to obtain a recombinant orthopoxvirus; and

(d) isolating said recombinant orthopoxvirus.

14. The method of introducing a heterologous sequence into the gene region of the orthopoxvirus having an ATI gene defined in claim 13 wherein according to step (b) the orthopoxvirus is modified vaccinia Ankara virus.

15. A target cell comprising the recombinant orthopoxvirus having an ATI gene defined in claim 10.

16. A target cell comprising the vector defined in claim 2.

17. A pharmaceutical composition for effecting an immune response against an infectious disease or a proliferative disorder which consists essentially of a therapeutically effective amount of the recombinant poxvirus as defined in claim 10 and in a form capable of producing an immune response against an infectious disease or a proliferative disorder in combination with a pharmaceutically acceptable inert carrier or diluent.

18. A method of effecting an immune response against an infectious disease or a proliferative disorder in an animal subject which comprises the step of administering to said subject a therapeutically effective amount of the pharmaceutical composition defined in claim 17.